a3

--The two diol monomers, which are always to be reacted separately, are: a first diol monomer of relatively high molecular weight and a second diol monomer of low molecular weight. The second diol monomer preferably has terminal hydroxyl groups, and, has a molecular weight of about 62 – 122. The first diol monomer preferably has terminal hydroxyl groups, and has a number average molecular weight of about 1,000 to about 8,000. In the preferred embodiment, the first diol monomer is a member selected from the group consisting of a polyether diol, a polyester diol and a mixed polyether-polyester diol.--

Please amend the first paragraph on page 7 as follows:

a4

--Polyurethane polymer has a number average molecular weight of about 100,000 and above, and preferably about 200,000 and above. The tenacity of the polymer is about 0.6 grams/denier and above. The elongation of the polyurethane polymer is about 400% and above. All of the above properties are present in fibers prepared from said polyurethane polymer—

Please amend the second paragraph on Page 9 as follows:

a5

--In reference to the process of adding a first organic diisocyanate to the polyol prepolymer, the mole ratio of isocyanate groups to hydroxyl groups in the micture is preferably about 2:1 to about 1:1.1. The mixture is then preferably heated at a temperature of about 60°C to about 100°C and at atmospheric pressure for a time of about 20 minutes to about 100 minutes.--

Please amend the third paragraph on page 10 as follows:

a6

--The polyol prepolymer preferably has a number average molecular weight of about 1,000 and above, most preferably about 2,000 to 6,000. Such a prepolymer can be a chain extended polyester made from a glycol, preferably a mixture of ethylene and butylene glycols, and a saturated organic dicarboxylic acid, preferable adipic acid. The acid usually contains 4 to 20 carbon atoms. Typical examples include succinic acid, maleic acid, dihydromalonic acid, thiodipropionic acid, adipic acid, methyl adipic acid, glutaric acid, dimerized linoleic acid, sebacic acid, suberic acid, phthalic acid and terephthalic acid. To some extent hydorxycarboxylic acids or their lactones can be used, eg., caprolactone, to aid in forming the polyesters. As stated, mixtures of various dibasic acids and glycols can be used to form mixed esters.--

Please amend the second paragraph on page 11 as follows:

a1

--As an alternative to the polyesters there may be used for reaction with the diisocyanate one or more elastomer yielding polyethers. Such polyethers are typically anhydrous chain extended polyethers possessing ether linkages separated by hydrocarbon chains either alkyl or aryl in nature. The ether should also contain terminal groups reactive with isocyanate, such as alcoholic hydroxyl groups. Such polyethers should be linear with a second order transition point of not over 25°C., preferably not over 10°C. The number

a7

average molecular weight range is from 500-700 but preferably is within the range of 1,000 to 50,000. Preferred polyetheres have the formula H(OR)nOH where R is a lower alkylene group (2 to 6 carbon atoms) and is an integer so that the molecular weight falls within the range specified. Examples of polyethers are polyethylene glycol, polypropylene glycol, polybutylene glycol, mixed polyethylene glycolpolypropylene glycol, polytetramethylene glycol (cg., of 1,000 number averabe molecular weight)--

Please amend the second paragraph on page 12 as follows:

a8

--Long lengths of "soft" segments are desired. In the fiber prepared from the final polyurethane elastomeric product, the "soft" segments regulate the elongation of the fiber and the recovery from stretch of the fiber. In order to obtain long lengths of "soft" segments, higher molecular weight diols can be employed. Another approach to achieving long lengths of "soft" segments is to regulate the capping ratio so that the molecules have one end with an isocyanate group and one end with a hydroxyl group, making them self-reactive.--

Please amend the third paragraph on page 14 as follows:

a9

--The ratio of the reactants, the temperature of the reaction, and the time of the reaction are all critical factors in determining the length of the first "soft" segment, which ultimately regulates the elongation and recovery properties of the fiber. The length of the first "soft" segment can be in multiples of the starting polyol, so that if the starting polyol has a number average molecular weight of about 2,000, then the length of the "soft" segment, when prepared under proper conditions, can contain some segments from 10,000 to even about 40,000 number average molecular weigh.--

Please add the following paragraph after the paragraph on page 19:

a10

--While the invention has been described by specific embodiments, there is no intent to limit the inventive concept as set forth in the following claims.--